WHAT IS CLAIMED IS:

1. A method for fabricating a metallization structure, comprising:

ion metal plasma depositing a wetting layer upon a topography; and

sputter depositing, within a single chamber, substantially the entirety of a bulk metal layer upon the wetting layer.

2. The method of claim 1, further comprising depositing an insulating layer above the bulk metal layer.

3. The method of claim 1, wherein said topography comprises a cavity in a dielectric layer, and wherein said sputter depositing comprises sputter depositing the bulk metal layer within the cavity until the cavity is substantially filled.

4. The method of claim 3, wherein said wetting layer comprises titanium.

5. The method of claim 4, wherein the topography is a microelectronic topography and further comprises (i) a lower portion of the microelectronic topography below said dielectric layer, and (ii) cavity sidewalls around the cavity, and wherein said ion metal plasma depositing a wetting layer comprises depositing the wetting layer upon the sidewalls of the cavity and upon an upper surface of the microelectronic topography directly below the cavity.

6. The method of claim 1, wherein said ion metal plasma depositing a wetting layer comprises directing ionized metal atoms from a target toward the dielectric layer in a direction substantially perpendicular to the dielectric layer.

7. The method of claim 6, further comprising:

applying a sufficient DC power to a target to induce sputtering of metal atoms from the target and towards a pedestal below the microelectronic topography, wherein the sputtered metal atoms comprise titanium;

applying a sufficient RF power to an induction coil between the target and the pedestal to ionize at least a portion of the metal ions sputtered from the target; and

applying a sufficient pedestal bias power to the pedestal to direct the ionized metal atoms towards the dielectric layer in a direction substantially normal to the dielectric layer.

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8. The method of claim 6, wherein the cavity comprises a via in the dielectric layer and extending to a conductive region of the topography.

9. The method of claim 6, further comprising pre-cleaning said topography prior to said ion metal plasma depositing.

10. The method of claim 9, wherein said pre-cleaning comprises removing an upper portion of the dielectric layer to form tapered cavity sidewalls.

11. The method of claim 1, wherein the bulk metal layer comprises aluminum, and wherein the wetting layer comprises titanium.

12. A method for fabricating a metallization structure, comprising:

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in a first deposition chamber, ion metal plasma depositing a wetting layer comprising titanium within a cavity in a dielectric layer above a microelectronic topography;

in a second deposition chamber, cold sputter depositing a first portion of a bulk metal layer comprising aluminum within the cavity; and subsequently

in said second deposition chamber, hot sputter depositing a second portion of the bulk metal layer within the cavity.

13. The method of claim 12, wherein said cold sputter depositing a first portion of the bulk metal layer comprises depositing a first portion of the bulk metal layer under conditions that do not significantly reflow the first portion of the bulk metal layer immediately after being deposited.

14. The method of claim 13, wherein said hot sputter depositing a second portion of the bulk metal layer comprises depositing the second portion of the bulk metal layer under conditions that reflow the first portion of the bulk metal layer immediately after being deposited.

15. The method of claim 12, wherein said cold sputter depositing a first portion of the bulk metal layer comprises applying a first DC power to a target in the bulk metal deposition chamber, said hot sputter depositing a second portion of the bulk metal layer comprises applying a second target DC power to the target, and said first DC power is greater than said second DC power.

16. The method of claim 12, wherein said hot sputter depositing further comprises depositing the second portion of the bulk metal layer upon the first portion of the bulk metal layer, and said cold sputter depositing further comprises depositing the first portion of the bulk metal layer upon the wetting layer.

17. The method of claim 12, wherein said cold sputter depositing further comprises depositing the first portion of the bulk metal layer upon the wetting layer, and wherein said hot sputter depositing substantially fills the cavity.

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18. The method of claim 12, wherein said depositing a bulk metal layer is the first deposition process performed after said ion metal plasma depositing a wetting layer.

19. A metallization structure, comprising:

a wetting layer in a base of a cavity having an aspect ratio of at least 2:1 in a dielectric layer, the wetting layer having a sidewall coverage along sidewalls of the cavity of at least 10%; and

a bulk metal layer comprising aluminum on the wetting layer and substantially filling said cavity.

20. The metallization structure as recited in claim 19, wherein the wetting layer has a sidewall coverage of at least 25% and a base coverage above a base of the cavity of at least 60%, and the cavity has a width of at most 0.25 microns and an aspect ratio of at least 3:1.

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